

Approved  
MNE 1/11/25

Record Detail \* (This section is required.)

<b>Permit Type</b>	<b>Permit Number</b>	<b>Opened Date</b>
Building/Residential/Misc/Solar Panel	B25002621	07/04/2025
<b>Description of Work</b>		
SFD / INSTALL (36) GROUND MOUNTED SOLAR PANELS, 14.58 KW**SUBJECT TO FIELD INSPECTION**		

Online BP

g& 7/7/25

[check spelling](#)

Address \* (This section is required.)

Search Reset Clear Get Parcel & Owner

<b>Street #</b>	<b>Street Name</b>	<b>Street Type</b>	
12125	DUSK VIEW	CT	
<b>Unit Type</b>	<b>Unit #</b>	<b>X Coordinate</b>	<b>Y Coordinate</b>
-Select-		-76.92847	39.22705
<b>City</b>	<b>State</b>	<b>Zip Code</b>	<b>Primary</b>
CLARKSVILLE	MD	21029	Yes

Parcel \* (This section is required.)

Search Reset Clear Get Address & Owner

<b>GIS ID *</b>	<b>Parcel</b>	<b>Parcel Area</b>	<b>Land Value</b>	<b>Improved Value</b>	<b>Exemption Value</b>	<b>Plan Area</b>
875343	356	3.1	296900	1088600	791700	RURAL
<b>Legal Description</b>						
IMPSLOT 66 3.10 A[ ]12125 DUSK VIEW CT[ ]CLEARVIEW EST S 2						

[check spelling](#)

<b>Block</b>	<b>Lot</b>	<b>Census Tract</b>	<b>Council Dist</b>	<b>Inspection Dist</b>	<b>Supervisor Dist</b>	<b>Map #</b>	<b>DAP Zone</b>
	66	605101	5				
<b>Plan Area</b>	<b>State Tax Id</b>		<b>Subdivision Name</b>				
	1405421985		CLEARVIEW ESTATES				
<b>Section</b>	<b>Area</b>		<b>Tax Map</b>				
			29				
<b>Grid</b>	<b>Zoning District</b>		<b>ADC Map</b>				
29-13	RC-DEO		4934-B4				
<b>SDP No.</b>	<b>Final Plan No.</b>		<b>WP File No.</b>				
<b>Record Plat No.</b>	<b>WS Contract No.</b>		<b>FDP No.</b>	<b>Primary</b>			
11989				Yes			
<b>Owner Occupied</b>	<b>Year Built</b>		<b>Historic District</b>				
<input checked="" type="radio"/> Yes <input type="radio"/> No	1997		<input type="radio"/> Yes <input checked="" type="radio"/> No				
<b>Historic District Registry No.</b>	<b>Stat Area</b>		<b>Flood Plain</b>				
	5-03		<input type="radio"/> Yes <input checked="" type="radio"/> No				
<b>Building No</b>							

Owner \* (This section is required.)

Search Reset Clear

**Name \***  
KIM D

**Address Line 1**  
12125 DUSK VIEW CT

**Address Line 2**

**Address Line 3**

**Mail City**



Submit

Cancel

ToxID-05-421985

2/13/97 Needs house connector DKS

# PERMIT

## SEWAGE DISPOSAL SYSTEM

### DEPARTMENT OF HEALTH AND MENTAL HYGIENE

P 57553A

A 37786

DISTRICT 5th

DATE 11/24/96

DATE SYSTEM APPROVED 3/4/97

INSPECTOR DKS per older

**HOWARD COUNTY HEALTH DEPARTMENT**  
BUREAU OF ENVIRONMENTAL HEALTH  
~~XXXXXXXX~~ 313-2640

**INDEXED**

South Carroll Backhoe, Inc. IS PERMITTED TO INSTALL  ALTER

ADDRESS 4410 Salem Bottom Road, Westminster, Maryland 21157 PHONE 875-4197

SUBDIVISION Clearview Estates, Sec. 2 LOT 30 (66) NEW ROAD 12125 Dusk View Court

PROPERTY OWNER Nantucket Island Homes, Inc.

ADDRESS \_\_\_\_\_

SEPTIC TANK CAPACITY 1250 GALLONS

NUMBER OF BEDROOMS 4

180 SQUARE FEET PER BEDROOM

LINEAR FEET OF TRENCH REQUIRED 240

~~11/23/97 per discussion w/Grace Eyerich, request made to change dist. box location to 10' off left lot line, running trenches towards 642.96' lot line. REQUEST OK - DKS~~

TRENCHES - Trench to be 2 feet wide. Inlet 4 feet below original grade. Bottom maximum depth 7 feet below original grade. Effective area begins at 4 feet below original grade. 3 feet of stone below distribution pipe.

LOCATION - Place distribution box 125 feet from rear lot line and 110 feet from left lot line as viewed from Cul-de-Sac. Install trenches on contour toward left lot line.

NOTES - No trench to exceed 100 feet in length. Provide 6" - 8" diameter cleanout and cap to grade or above on septic tank.

PLANS APPROVED BY Amy McMillen/Glen Savage

REVISED

DATE 09/11/96

COVER NO WORK UNTIL INSPECTED AND APPROVED

NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM

NOTE: CLEANOUT REQUIRED EVERY 70 FEET OF SEWER LINE AND/OR AT 90° SWEEPS IN LINES FROM HOUSE TO DRAIN FIELDS, 90° ELBOWS NOT ACCEPTABLE.

NOTE: ALL PARTS OF SEPTIC SYSTEMS (I.E. TANK, DISTRIBUTION BOX TRENCHES) TO BE 100 FEET FROM WELL (UNLESS OTHERWISE SPECIFICALLY AUTHORIZED)

NOTE: IF DEEP TRENCH(ES) ARE USED CALL FOR INSPECTION BEFORE AND AFTER PLACING GRAVEL IN TRENCH(ES)

NOTE: NO DRY WELL SHALL EXCEED 15 FOOT IN DIAMETER NO ABSORPTION TRENCH TO EXCEED 100 FEET IN LENGTH

NOTE: ALL PIPE FROM HOUSE TO SEPTIC TANK MUST BE CAST IRON OR SCHEDULE 35/40 PVC OR ABS

PERMIT VOID AFTER TWO YEARS

NOTE: INSTALL STAND PIPE ON SEPTIC TANK AND DRY WELL STAND PIPES MUST BE 6 INCHES IN DIAMETER CAST IRON, CONCRETE OR TERRA COTTA OR PVA OR ABS ACCEPTED. IF TOP OF SEPTIC TANK IS DEEPER THAN 3 FEET, MANHOLE TO GRADE REQUIRED.

NOTE: DISTRIBUTION BOXES MUST HAVE BAFFLES

BLDG. PERMIT SIGNED

AND RETURNED 11/24/96

Serial # 204102817  
Gunn

**\*INSTALLER IS RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT**

A 37786





PROPOSED PV  
ARRAY LOCATION

**PROPOSED PV ARRAY LOCATION**

Scale: NTS

**KEY**



AREA TO BE CLEARED  
PRIOR TO INSTALL

**James C  
Douglas**

Digitally signed by  
James C Douglas  
Date: 2025.07.01  
15:39:00 -04'00'

Professional Certification. I hereby certify that these documents were prepared or approved by me and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 40027, Expiration Date: 3/15/2).



Engineering Review is Limited Solely to the Structural Design of the SFUSA Structure. It Excludes All Civil, Electrical, and Other Non-Structural Project Elements.



**SolarEnergyWorld**  
Because Tomorrow Matters

Solar Energy World LLC.  
14880 Sweetbark Lane  
Lanver, MD 20787  
(888) 497-3233

Disclaimer  
This drawing is the property of Solar Energy World Inc. The information herein contained shall be used for the sole benefit of Solar Energy World. It shall not be disclosed to others outside the recipient organization, in whole or in part, without the written permission of Solar Energy World, except in connection with the sale and use of the respective Solar Energy equipment.

<small>Building Code</small> International Residential Code (IRC) 2021	
<small>Code Book</small> National Electrical Code (NEC) 2023	
<small>Wind Speed</small> 115 MPH	<small>Roof Load</small> 40 PSF
<small>Module</small> (36) LONGi LR5-54HPB-405M	
<small>Inverter(s)</small> (1) SE7600H-USRGM (1) SE5000H-USRGM	
<small>DC System Size</small> 14.580 kW	<small>AC System Size</small> 12.600 kW

Customer Information  
Dae R Kim  
12125 Dusk View Ct  
Clarksville, MD, 21029

<small>Project Number</small> IGS	
<small>Arch</small> Howard	<small>Utility</small> BGE
<b>Proposed PV Array Location</b>	
<small>Drawn By</small> AT	<small>Date</small> June 12, 2025
<small>Scale</small> AS NOTED	<small>Job Number</small> MD25520
<small>Sheet</small> A-1	

**James C Douglas** Digitally signed by James C Douglas  
Date: 2025.07.01 15:39:25 -04'00'

Professional Certification. I hereby certify that these documents were prepared or approved by me and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 40027, Expiration Date: 3/15/22.



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**SolarEnergyWorld**  
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Solar Energy World LLC  
14860 Switzer Lane  
Laurel, MD 20707  
(888) 487-3233

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Listing Code	International Residential Code (IRC) 2021
Specification	National Electrical Code (NEC) 2023
Wind Speed	115 MPH
Roof Load	40 PSF
Module	(36) LONGi LR5-54HPB-405M
Inverter(s)	(1) SE7600H-USRGM (1) SE5000H-USRGM
DC System Size	14.580 kW
AC System Size	12.600 kW

Customer Name  
**Dae R Kim**  
12125 Dusk View Ct  
Clarksville, MD, 21029

Prepared by  
**IGS**

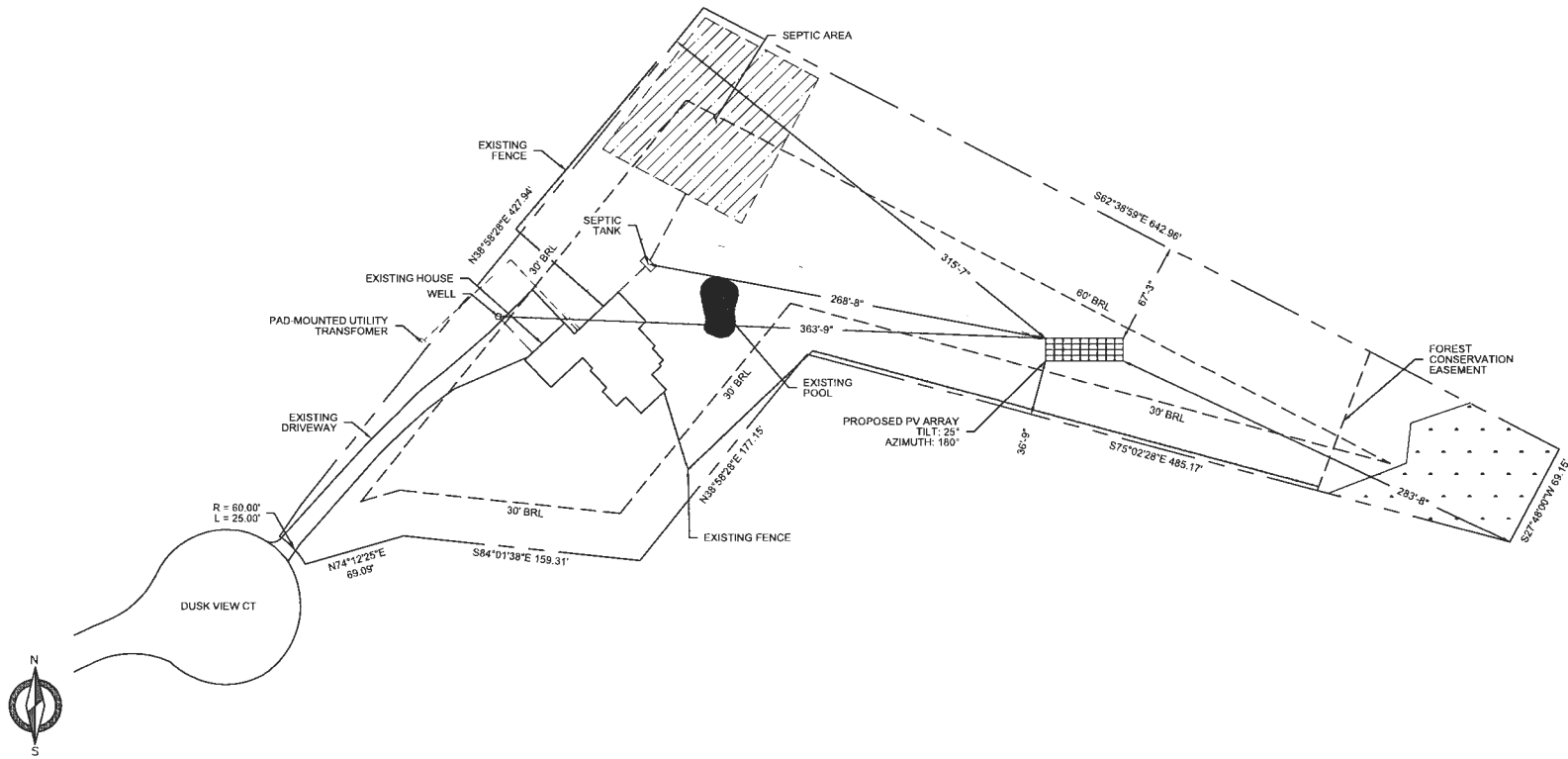
Checked by  
Howard  
Date  
BGE

Site Plan		
Drawn By	Date	
<b>AT</b>	<b>June 12, 2025</b>	
Scale	Job Number	Sheet
<b>AS NOTED</b>	<b>MD25520</b>	<b>A-2</b>

# LEGEND

WILDLIFE & FOREST PRESERVATION	SOLAR CONDUIT
WATER BODIES & FLOOD PLAINS	WATER
WETLANDS	OVERHEAD ELECTRICAL
	UNDERGROUND ELECTRICAL
	SEWER
	GAS

**SITE PLAN**  
Scale: 1" = 80'-0"



- NOTES:**
- THIS DRAWING IS TO PROVIDE REFERENCE FOR THE INSTALLATION OF GROUND MOUNT PHOTOVOLTAIC ARRAYS.
  - THE SYSTEM SHALL INCLUDE (36) LONGi LR5-54HPB-405M MODULES (DIMENSIONS: 67.8" (L) x 44.65" (W) x 1.18" (D) AND WEIGHING 49.6 LBS (PANEL DEAD LOAD = 2.36PSF))
  - THE SOLAR FOUNDATIONS RACKING WILL BE INSTALLED PER MANUFACTURER'S INSTALLATION MANUAL.
  - THE PROPOSED ARRAY SHALL COVER APPROX. 779.62SQ.FT. OF THE 3.11 AC. PROPERTY.
- CLIENT SHALL REVEAL PROXIMAL EXACT LOCATION TO BE PROVIDED WITH NEARBY ADJACENT AND HOME OWNER AT THE TIME OF INSTALLATION



SFUSA™  
Ground Mount Structure

Date: June 27, 2025  
Subject: Ground Mount Solar Support Structure  
Kim Residence (MD25520)  
Project: 12125 Dusk View Ct  
Clarksville, MD 21029

To whom it may concern,

Solar Foundations USA certifies that the design of the subject ground mount support structure as submitted conforms to the Maryland Building Performance Standards Regulations, including the 2021 International Building Code (IBC) with the Department of Labor, Licensing, and Regulation Modifications (Ref: COMAR 09.12.51).

Professional Certification. I hereby certify that this document was prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 40027, Expiration Date: 3/15/2027.

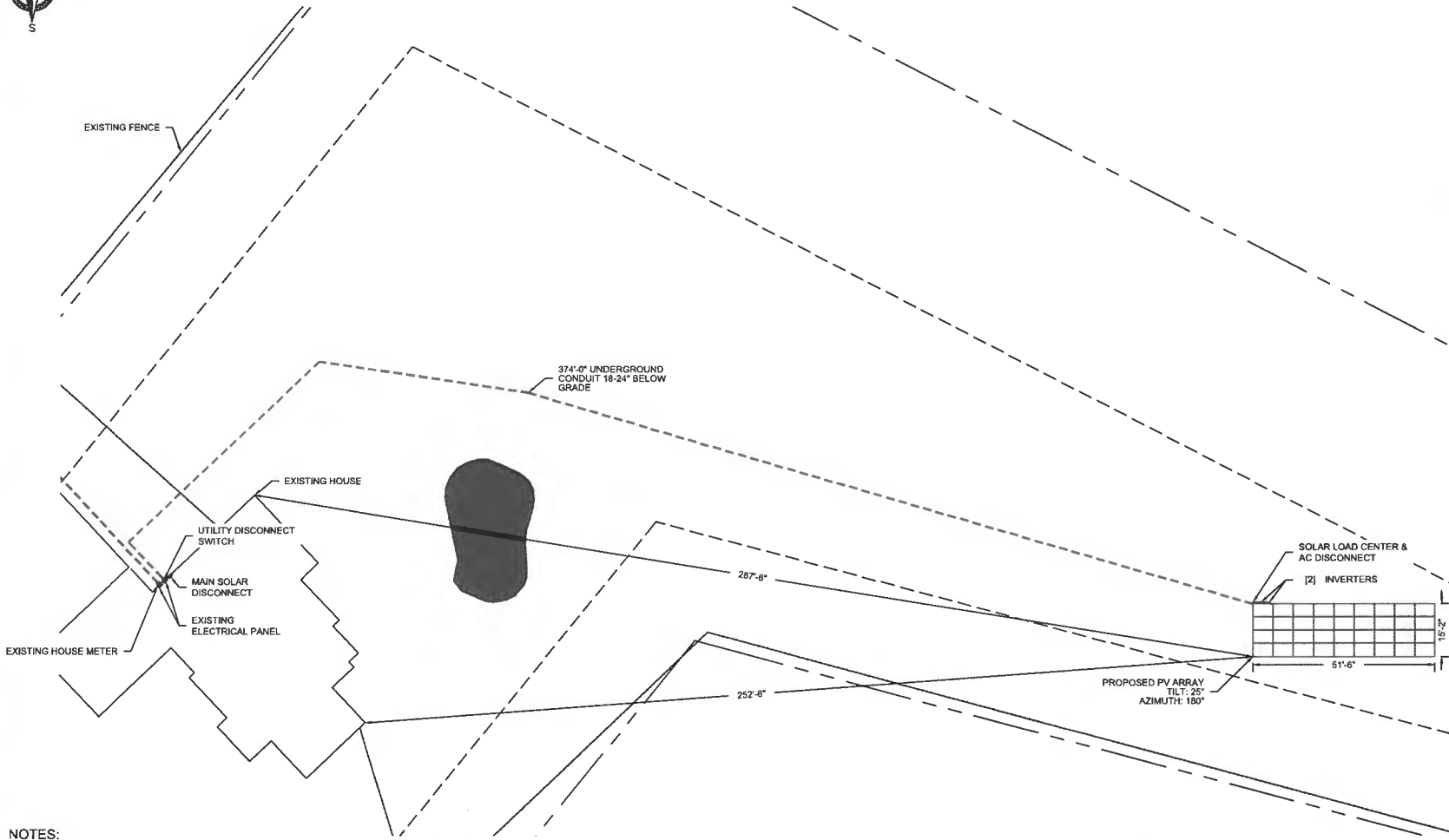
Please call if you have any questions or require any additional information.

Respectfully,

James C. Douglas  
Director of Engineering  
MD PE # 40027

James C Douglas  
Digitally signed by  
James C Douglas  
Date: 2025.07.01  
15:38:30 -04'00'





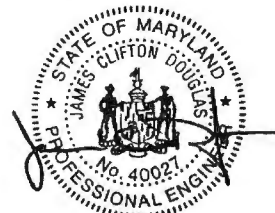
- NOTES:**
1. THIS DRAWING IS TO PROVIDE REFERENCE FOR THE INSTALLATION OF GROUND MOUNT PHOTOVOLTAIC ARRAYS.
  2. THE SYSTEM SHALL INCLUDE [36] LONGI LR5-54HPB-405M MODULES [DIMENSIONS: 67.8" (L) x 44.85" (W) x 1.18" (D) AND WEIGHING 49.6 LBS (PANEL DEAD LOAD = 2.36PSF)]
  3. THE SOLAR FOUNDATIONS RACKING WILL BE INSTALLED PER MANUFACTURER'S INSTALLATION MANUAL.
  4. THE PROPOSED ARRAY SHALL COVER APPROX. 779.62SQ.FT. OF THE 3.11 AC. PROPERTY.
  5. EQUIPMENT LOCATION PLAN IS APPROXIMATE, EXACT LOCATION TO BE VERIFIED WITH INSTALLATION CREW AND HOME OWNER AT THE TIME OF INSTALLATION.

**EQUIPMENT LOCATION PLAN**  
Scale: 1" = 30'-0"

LEGEND	
	WILDLIFE & FOREST PRESERVATION
	WATER BODIES & FLOOD PLAINS
	WETLANDS
	SOLAR CONDUIT
	WATER
	OVERHEAD ELECTRICAL
	UNDERGROUND ELECTRICAL
	SEWER
	GAS

**James C Douglas**  
Digitally signed by James C Douglas  
Date: 2025.07.01 15:39:50 -04'00'

Professional Certification. I hereby certify that these documents were prepared or approved by me and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 40027, Expiration Date: 3/15/2).



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**SolarEnergyWorld**  
Because Tomorrow Matters

Solar Energy World LLC.  
14880 Shilohstar Lane  
Lanar, MD 20707  
(888) 497-3233

**Submittal:**  
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Design Code	International Residential Code (IRC) 2021
Electrical Code	National Electrical Code (NEC) 2023
Wind Speed	115 MPH
Snow Load	40 PSF

**Module:**  
(36) LONGI LR5-54HPB-405M

**Power(WP):**  
(1) SE7600H-USRGM  
(1) SE5000H-USRGM

DC System Size	14.580 kW	AC System Size	12.600 kW
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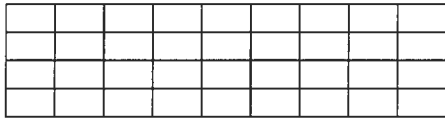
**Client Name:**  
Dae R Kim  
12125 Dusk View Ct  
Clarksville, MD, 21029

**Project name:**  
IGS

Arch:	Howard	Utility:	BGE
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**Equipment Location Plan**

Drawn by:	AT	Date:	June 12, 2025	
Scale:	AS NOTED	Sheet No.:	MD25520	
			Rev.:	E-1



**PANEL LAYOUT**

N.T.S.

**4Lx9C SUB-ARRAY DESIGN DATA**

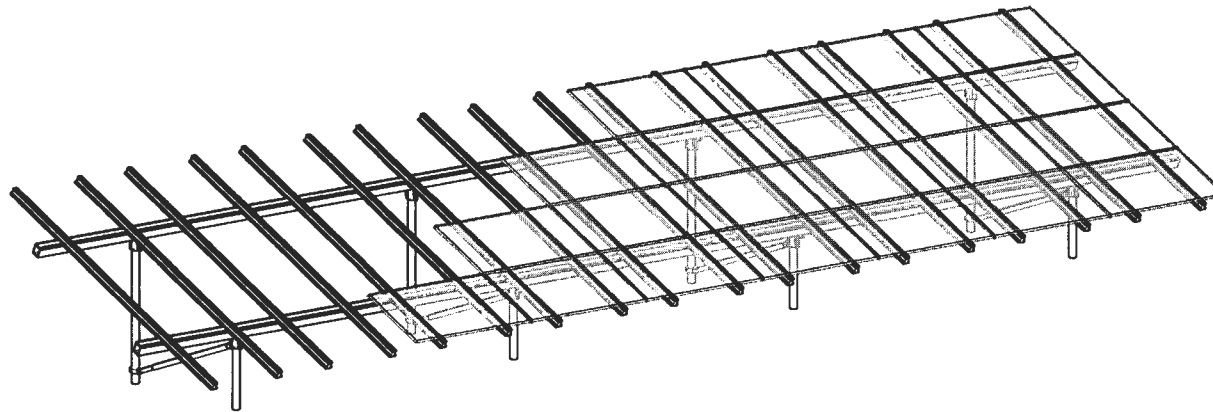
QTY OF MODULES/SUB-ARRAY:	36
QTY OF SUB-ARRAYS:	1
PANEL COLUMNS/SUB-ARRAY:	9
QTY OF PANEL ROWS:	4
PANEL ORIENTATION:	LANDSCAPE
PANEL COLUMN SPACING:	4'
PANEL ROW SPACING:	4'
PANEL MODEL:	LR5-54HPB
PANEL SIZE:	44.65" x 67.8"
PANEL POWER RATING:	405 WATTS
SUB ARRAY POWER RATING:	14.58 KW
TOTAL POWER RATING:	14.58 KW
QTY RAIL PER PANEL:	2

**SITE DESIGN CONDITIONS**

BASIC WIND SPEED: (RISK CATEGORY II)	115 MPH	MAXIMUM PILE AXIAL BEARING:	4,195 LBS
BASIC WIND SPEED: (RISK CATEGORY I)	N/A	MAXIMUM PILE UPLIFT:	2,535 LBS
EXPOSURE CATEGORY:	C	MAXIMUM LATERAL RESISTANCE:	1,980 LBS
GROUND SNOW LOAD:	40 PSF	TOP RAIL MAXIMUM LOADING:	122.4 PLF
FLAT ROOF SNOW LOAD:	N/A	GROUND SCREW DEPTH:	80" MIN
SITE CONTOUR:	<5 DEG SLOPE		

ALL DESIGN WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY BUILDING CODE INCLUDING, BUT NOT LIMITED TO, THE 2021 INTERNATIONAL BUILDING CODE WITH AMENDMENTS PER SECTION 3.101.

NET DESIGN PRESSURES WERE CALCULATED IN ACCORDANCE WITH ASCE 7-16 SECTION 27.3.2, "OPEN BUILDINGS WITH MONOSLOPE, PITCHED, OR TROUGHED ROOFS". ALL LOAD CASES WERE EVALUATED IN DETERMINING THE LIMITING DESIGN CONDITIONS. THE DATA TABLE ABOVE PROVIDES THE RESULTS FOR THE LIMITING LOAD CASE. MAXIMUM PILE REACTION FORCES REPRESENT THE HIGHEST LOAD CONDITION APPLIED TO ANY PILE IN THE STRUCTURE. ALL PILES IN THE STRUCTURE ARE DESIGNED TO MEET THE MAXIMUM LOAD CONDITIONS.



**ISOMETRIC VIEW**

N.T.S.



1142 River Road, New Castle, DE 19720  
Ph: (855) 738-7200 Fax: (866) 644-5666

SOLAR ENERGY WORLD

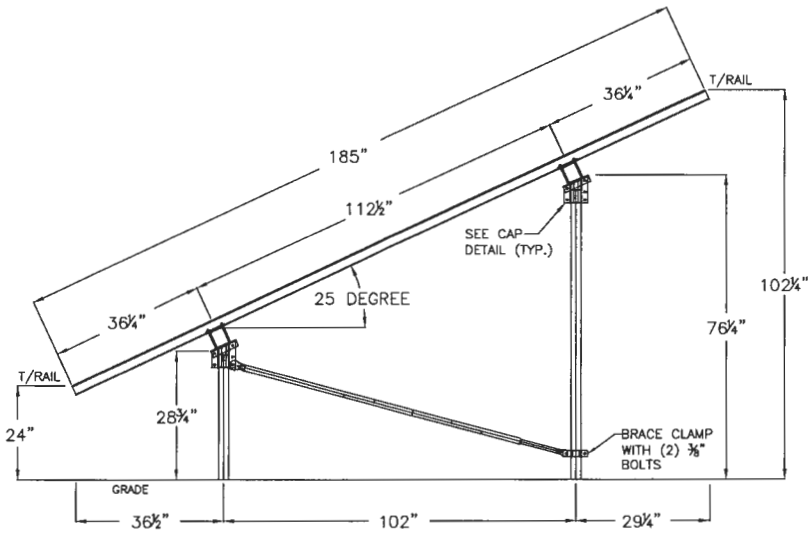
-PROJECT-  
KIM, DAE PROJECT(MD25520)  
12125 DUSK VIEW CT  
CLARKSVILLE, MD 21029

James C Douglas  
Digitally signed by James C Douglas  
Date: 2025.06.30 16:54:05 -04'00'



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 40027, EXPIRATION DATE: 3/15/27.

DATE	REVISION	DRAWN BY:	REVIEW BY:
06/27/2025	ORIGINAL	JB	JD

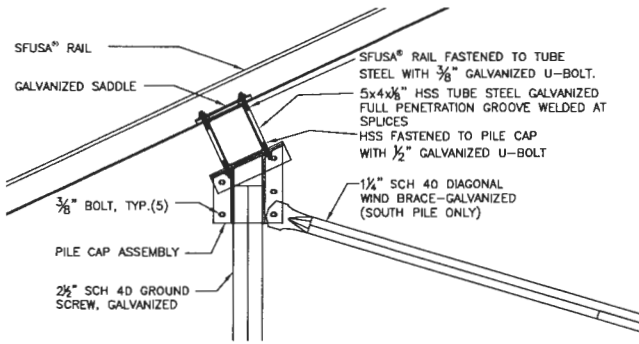


**EAST ELEVATION**

N.T.S.

**NOTE:**

- 1. ARRAY HEIGHT DIMENSIONS ASSUME LEVEL GRADE



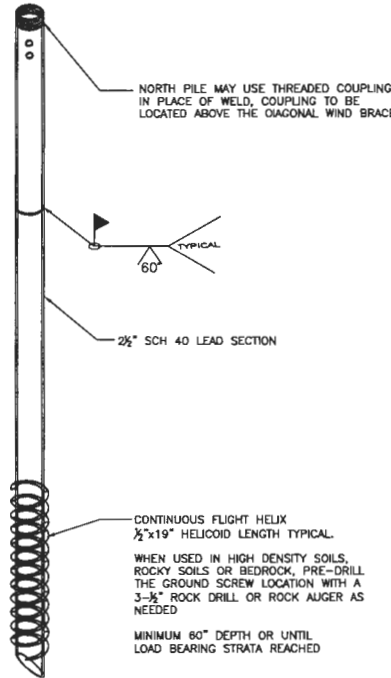
**CAP DETAIL**

N.T.S.

**SPECIFICATION REQUIREMENT NOTES:**

THE FOLLOWING MATERIAL SPECIFICATION REQUIREMENTS PERTAIN TO THE FABRICATION OF THE SOLAR FOUNDATIONS USA® GROUND MOUNT SOLAR SUPPORT STRUCTURE AS INDICATED ON THESE DRAWINGS.

1. SFUSA® ALUMINUM RAILS SHALL CONFORM TO ASTM B221.
2. STRUCTURAL STEEL TUBING SHALL BE ASTM A500 HIGH YIELD (60 KSI).
3. STEEL PIPE FOR PILES SHALL CONFORM TO ASTM A500 GRADE C.
4. STEEL PILE EXTENSIONS SHALL BE ASTM A53 GRADE B.
5. STEEL PIPE FOR DIAGONAL BRACING SHALL BE ASTM A53 GRADE A.
6. FABRICATED STEEL PLATE FOR PILE CAP ASSEMBLIES, BRACING CLAMPS, ETC. SHALL BE ASTM A36 OR A1011.
7. STEEL BOLTS SHALL CONFORM TO SAE J429 GRADE 5 OR BETTER.
8. STEEL U-BOLTS SHALL CONFORM TO ASTM 1018.
9. USS FLAT STEEL WASHERS SHALL CONFORM TO ASTM F844 AND NUTS FOR STEEL CONNECTIONS SHALL CONFORM TO ASTM A563 GRADE A.
10. ALL FIELD WELDING SHALL CONFORM TO AWS D1.1/D1.1M -STRUCTURAL WELDING CODE REQUIREMENTS.
11. ALL STEEL SHALL BE HOT-DIP GALVANIZED PER ASTM A123 OR A153 AFTER ALL FABRICATION HAS BEEN COMPLETED.



**GROUND SCREW DETAIL**

N.T.S.

**INSTALLATION REQUIREMENT NOTES:**

1. THE MINIMUM AVERAGE INSTALLATION TORQUE REQUIRED TO OBTAIN THE REQUIRED INDICATED CAPACITIES AND THE MINIMUM INSTALLATION DEPTH SHOWN ON THE PLANS SHALL BE SATISFIED PRIOR TO TERMINATION OF THE GROUND SCREW INSTALLATION. THE INSTALLATION TORQUE SHALL BE AN AVERAGE OF THE INSTALLATION TORQUES INDICATED DURING THE LAST ONE FOOT OF INSTALLATION.
2. THE TORSIONAL STRENGTH RATING OF THE GROUND SCREW SHALL NOT BE EXCEEDED DURING THE INSTALLATION. IF THE TORSIONAL STRENGTH LIMIT OF THE GROUND SCREW HAS BEEN REACHED, BUT THE SCREW HAS NOT REACHED THE TARGET DEPTH, PERFORM THE FOLLOWING:
  - a. REVIEW DEVELOPED TORQUE AND GROUND SCREW DEPTH WITH ENGINEER OF RECORD TO DETERMINE IF ACCEPTABLE FOR THIS INSTALLATION BASED UPON MINIMUM FROST DEPTH REQUIREMENT.
  - b. FOR INSTALLATION INTO HIGHLY COMPACTED SOIL, CREW SHALL PRE-DRILL THE GROUND SCREW LOCATION WITH A 3/2" CARBIDE TIPPED ROCK AUGER TO FULL GROUND SCREW DEPTH PRIOR TO INSTALLATION OF THE GROUND SCREW.
  - c. FOR INSTALLATION INTO SOLID ROCK, CREW SHALL PRE-DRILL THE GROUND SCREW LOCATION WITH A 3/2" PNEUMATIC DRIVEN ROCK DRILL. DEPTH OF DRILLED HOLE INTO THE ROCK SHALL BE A MINIMUM OF 30" TO ALLOW THE GROUND SCREW TO BE INSTALLED A MINIMUM OF 24" INTO THE ROCK FOR FULL FLIGHT ENGAGEMENT.
3. IF THE TARGET DEPTH IS ACHIEVED, BUT THE TORSIONAL REQUIREMENT HAS NOT BEEN MET THE INSTALLER PERFORM ONE OF THE FOLLOWING:
  - a. INSTALL THE GROUND SCREW DEEPER TO OBTAIN THE REQUIRED CAPACITY.
  - b. REMOVE THE GROUND SCREW AND INSTALL AN APPROVED SINGLE FLIGHT PILE WITH A LARGER DIAMETER HELICAL PLATE OR ONE WITH MULTIPLE HELICAL PLATES.
  - c. REDUCE THE LOAD ON THE INDIVIDUAL GROUND SCREWS BY PROVIDING ADDITIONAL GROUND SCREWS AT A REDUCED SPACING. CONTACT ENGINEER OF RECORD FOR DETERMINATION OF MAXIMUM PILE SPACING BASED UPON DEVELOPED TORQUE.

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 40027, EXPIRATION DATE: 3/15/27.

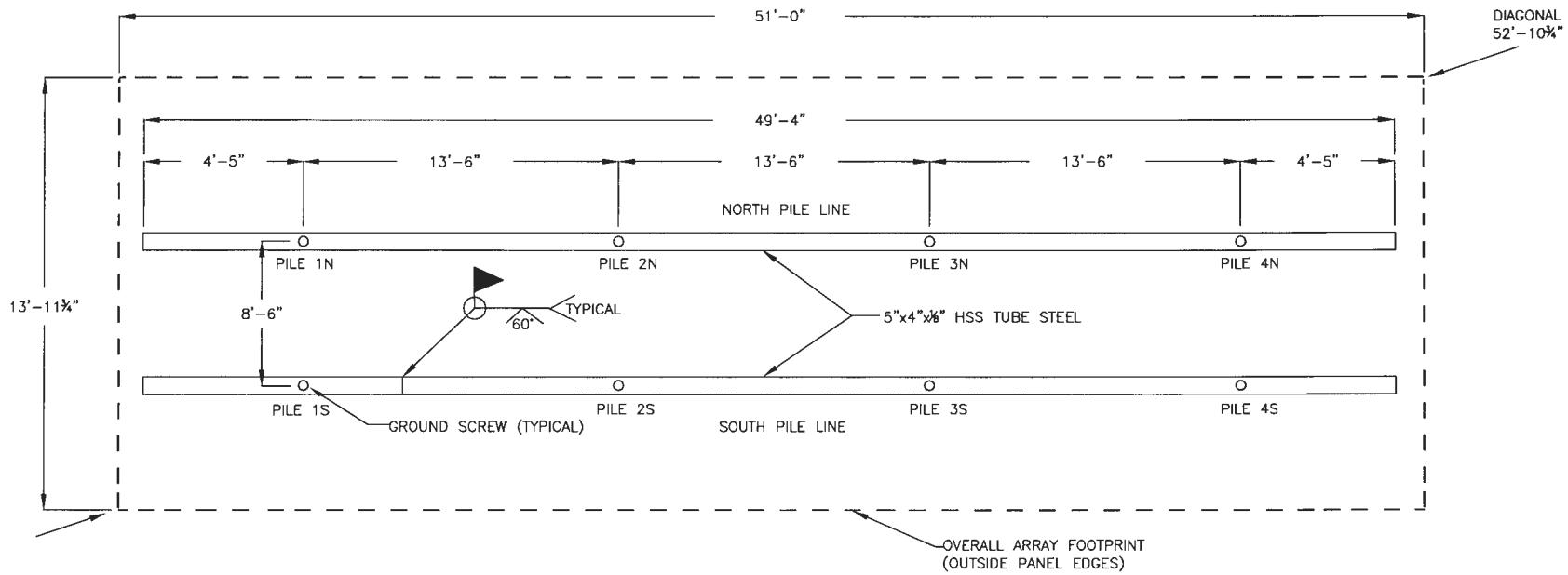
James C Douglas  
Digitally signed by James C Douglas  
Date: 2025.06.30 16:54:31 -04'00'



DATE	REVISION	DRAWN BY:	REVIEW BY:
06/27/2025	ORIGINAL	JR	JD

**Solar Foundations® USA**  
1142 River Road, New Castle, DE 19720  
Ph: (855) 738-7200, Fax: (866) 644-5665

**SOLAR ENERGY WORLD**  
-PROJECT-  
KIM, DAE PROJECT(MD25520)  
12125 DUSK VIEW CT  
CLARKSVILLE, MD 21029



**PILE PLAN LAYOUT**

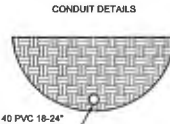
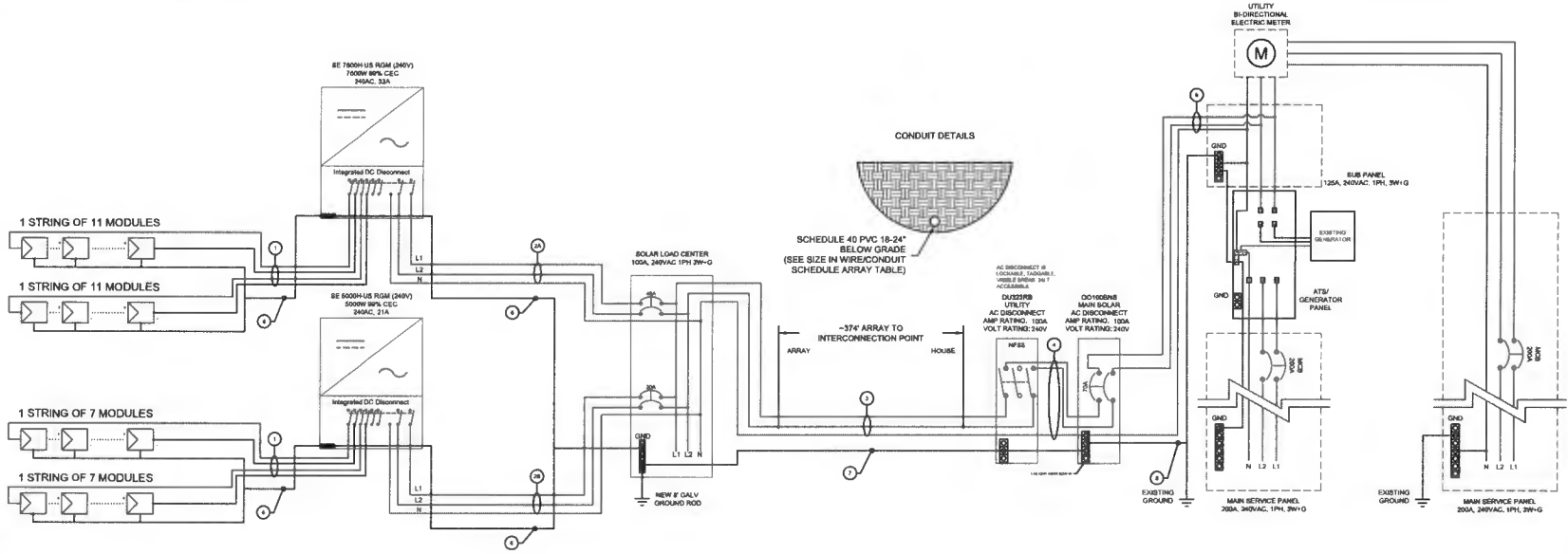
N.T.S.

**James C Douglas**  
 Digitally signed by James C Douglas  
 Date: 2025.06.30 16:54:56 -04'00'



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DATE	REVISION	DRAWN BY:	REVIEW BY:
06/27/2025	ORIGINAL	JB	JD



MODULE SPECIFICATIONS	
MODEL NUMBER	LR5-54HPB-405M
PEAK POWER	405 W
RATED VOLTAGE (Vmp)	31.18 V
RATED CURRENT (Imp)	12.99 A
OPEN CIRCUIT VOLTAGE (Voc)	37.15 V
SHORT CIRCUIT CURRENT (Isc)	13.78 A
MAXIMUM SYSTEM VOLTAGE	1500VDC

INVERTER SPECIFICATIONS	
MODEL NUMBER	SE7600H-US RGM (240V)
MAXIMUM DC VOLTAGE	480 V
MAXIMUM POWER OUTPUT	7600 W
NOMINAL AC VOLTAGE	240 VAC
MAXIMUM AC CURRENT	32.00 A
CEC EFFICIENCY	99.0%

INVERTER SPECIFICATIONS	
MODEL NUMBER	SE5000H-US RGM (240V)
MAXIMUM DC VOLTAGE	480 V
MAXIMUM POWER OUTPUT	6000 W
NOMINAL AC VOLTAGE	240 VAC
MAXIMUM AC CURRENT	21.00 A
CEC EFFICIENCY	99.0%

OPTIMIZER SPECIFICATIONS	
MODEL NUMBER	S440
MAXIMUM DC VOLTAGE	80 V
MAXIMUM POWER OUTPUT	440 W
MAXIMUM DC CURRENT OUTPUT	15 A
MAXIMUM DC CURRENT INPUT	14.50 A

ARRAY DETAILS			
NO. OF MODULES PER STRING	11	11	7
NO. OF STRINGS	1	1	1
ARRAY WATTS AT STC	4455	4455	2835

690.53 LABEL INFO			
MAX. RATED OUTPUT VOLTAGE (DC)	343 V	343 V	218.3 V
MAX. SYSTEM VOLTAGE	480 V	480 V	480 V
SHORT CIRCUIT CURRENT	15 A	15 A	15 A

3-LINE DIAGRAM

TAG	DESCRIPTION	WIRE SIZE/TYPE	CONDUIT SIZE/LENGTH	NOTES
1	Transition Box to DC Disconnect	#10 THHN/THWN-2		
1A	DC Disconnect to Inverter	N/A		INTEGRATED
2A	Inverter to Solar Load Center	#8 Cu THHN/THWN-2		
2B	Inverter to Solar Load Center	#10 Cu THHN/THWN-2		
3	Solar Load Center to AC Disconnect	#1 Cu THHN/THWN-2	~37' Conduit in 1.5" SCH 40 PVC	Vdrop = 2.8%
4	AC Disconnect to AC Disconnect	#4 Cu THHN/THWN-2		
5	AC Disconnect to Interconnection Point	#4 Cu THHN/THWN-2		
6	Equipment Grounding Conductor	#6 Cu Bare Copper Wire		
7	Equipment Grounding Conductor	#2 Cu THHN/THWN-2	~37' Conduit in 1.5" SCH 40 PVC	
8	Grounding Electrode Conductor	#6 Cu		

GENERAL ELECTRIC NOTES: NEC2023

- EQUIPMENT USED SHALL BE NEW, UNLESS OTHERWISE NOTED.
  - EQUIPMENT USED SHALL BE UL LISTED, UNLESS OTHERWISE NOTED.
  - EQUIPMENT SHALL BE INSTALLED PROVIDING ADEQUATE PHYSICAL WORKING SPACE AROUND THE EQUIPMENT AND SHALL COMPLY WITH NEC.
  - COPPER CONDUCTORS SHALL BE USED AND SHALL HAVE AN INSULATION RATING OF 600V, 90°C, UNLESS OTHERWISE NOTED.
  - CONDUCTORS SHALL BE SIZED IN ACCORDANCE TO THE NEC. CONDUCTORS AMPACITY SHALL BE DERATED FOR TEMPERATURE INCREASE, CONDUIT FILL AND VOLTAGE DROP.
  - ALL CONDUCTORS, EXCEPT PV WIRE SHALL BE INSTALLED IN APPROVED CONDUITS OR RACEWAY. CONDUITS SHALL BE ADEQUATELY SUPPORTED AS PER NEC.
  - AC DISCONNECT SHOWN IS REQUIRED IF THE UTILITY REQUIRES VISIBLE-BLADE SWITCH.
  - EXPOSED NON-CURRENT CARRYING METAL PARTS SHALL BE GROUNDED AS PER NEC.
  - LINE SIDE INTER-CONNECTION SHALL COMPLY WITH NEC.
  - SMS MONITORING SYSTEM AND ITS CONNECTION SHOWN IS OPTIONAL. IF USED, REFER TO SMS INSTALLATION MANUAL FOR WIRING METHODS AND OPERATION PROCEDURE.
  - ASHRAE FUNDAMENTAL OUTDOOR DESIGN TEMPERATURES DO NOT EXCEED 47°C IN THE U.S. (PHOENIX, AZ OR PALM SPRINGS, CA)
  - FOR LESS THAN 9 CURRENT-CARRYING CONDUCTORS IN ROOF MOUNTED SUNLIGHT CONDUIT USING THE OUTDOOR TEMPERATURE OF 47°C
  - 12.1. 10AWG CONDUCTOR ARE GENERALLY ACCEPTABLE FOR MODULES WITH AN Isc OF 9.6 AMPS WITH A 15 AMP FUSE.
- WIRE SIZING FOR OCPD  
 EX (Isc \* (1.25)(1.25)) / (# OF STRINGS IN PARALLEL) = WIRE AMPACITY OR USING NEC TABLE 690.8

**SolarEnergyWorld**  
Because Tomorrow Matters

Solar Energy World LLC.  
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Laurel, MD 20707  
(888) 497-3233

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**Building Code:** International Residential Code (IRC) 2021

**Conduct Code:** National Electrical Code (NEC) 2023

**Wind Speed:** 115 MPH      **Roof Load:** 40 PSF

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**Module:** (36) LONGi LR5-54HPB-405M

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**Inverter:** (1) SE7600H-USRGM  
(1) SE5000H-USRGM

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**DC System Size:** 14.580 kW      **AC System Size:** 12.600 kW

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**Customer Information:**  
 Dae R Kim  
 12125 Dusk View Ct  
 Clarksville, MD, 21029

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**Project Code:** IGS

**File Name:** Electrical 3-Line Diagram

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**Drawn By:** AT      **Date:** July 2, 2025

**Scale:** AS NOTED      **Job Number:** MD25520      **Sheet:** E-2